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§ 220. **Plants of Western Iowa.**—We owe an apology to the Rev. Robert Burgess, of Ames, Iowa, for delay in publishing a note on deficiencies in Arthur's Catalogue of Iowa plants. The note is now rather out of date, but we subjoin a list of the plants sent us, as well as we could make out from the specimens, which were not always perfect enough for a satisfactory determination. We have appended a query mark to those about which we were doubtful: 1. *Cynthia Virginiana*, Don.—2. *Coreopsis lanceolata*, L.?—3. *Parnassia Caroliniana*, Mchx.—4. *Linaria Canadensis*, Spreng.—5. *Arenaria Michauxii*, Gray.—6. *Viola pedata*, L.—7. *Salix tristis*, Ait.—8. *Cyperus inflexus*, Muhl.—9. *Alopecurus geniculatus*, L.—10. *Synthyris Houghtoniana*, Benth.—11. *Cypripedium parviflorum*, Salisb.?—12. *Ammania latifolia*, L.—13. *Polygonum incarnatum*, Ell.—14. *Aster Tradescanti*, L., *var. fragilis*. ??—15. *Osmunda Claytoniana*, L.—16. *Festuca nutans*, Willd.—16 *bis*. *Festuca elatior*, L.—17. *Senecio canus*, Hook.?—18. *Lespedeza hirta*, Ell., *var. sparsiflora*, T. & G.—19. *Valeriana edulis*, Nutt.—20. *Arabis lævigata*, DC.—21. *Arabis hirsuta*, Scop.—22. *Trifolium reflexum*, L.—23. *Cerastium viscosum*, L.—24. *Lechea*, a strict form which seems peculiar to the region about the Upper Mississippi.—25. *Salix discolor*, Muhl.—26. *Potamogeton fluitans*, Roth.?—27. *Hypericum Canadense*, L., *var. major*.—28. *Menyanthes trifoliata*, L.—29. *Hemicarpha subsquarrosa*, Nees.—30. *Physalis Philadelphica*, Lam.?—31. *Physalis pubescens*, L.—32. *Plantago major*, L.—33. *Euphorbia glyptosperma*, Eng.—34. *Euphorbia serpyllifolia*, Pers.?—35. *Cyclachaena xanthiifolia*, Fres.—36. *Artemisia Canadensis*, Mchx.—37. *Poa annua*, L.—38. *Cyperus diandrus*, Torr., *var. castaneus*.—39. *Sporobolus cryptandrus*, Gray.

§ 221. **Growth of Exogens.**—The accepted theory of growth in the stems of Exogens, especially in the regions of frost, is that during the period of foliation great activity goes on in the movement of the fluids throughout the plants structure, and that during that season of activity a new *tube* of wood is formed around the stem; that this new formation is marked by vascular tissue on the inner surface, and by a more dense and compact tissue on the outer surface.

On cross sections of most Exogenous stems, this tube is distinctly marked by the different tissues which make up the new formation. This new tube of wood is believed to be the result of one season's growth. In the regions of frost this season is the period of foliation.

Hence each marking is made by a period of great activity and a period of repose, constituting in the regions of frost an entire year.

Why this tube should have on its inner surface a lining of porous structure, while the outer layer is composed of tissues whose structure is more dense, has not been explained. It has been suggested that, during the months of February and March the outer layer of bark is ruptured in the direction of the axis of growth, and hence offers little resistance to the expansion of the cambium which results from the large deposits of cell material. Under this slight pressure the